
DATE: MAY 23, 1994
CASE NOS.: 93-ERA-34
93-ERA-36

IN THE MATTER OF

KURT R. ZINN,
COMPLAINANT,

V.

UNIVERSITY OF MISSOURI,
RESPONDENT,

AND

STEVEN J. MORRIS,
COMPLAINANT

V.

UNIVERSITY OF MISSOURI,
RESPONDENT.

Appearances:

Lynn Bratcher, Esq.
For the Complainant Kurt R. Zinn

Cullen Cline, Esq.
For the Complainant Steven J. Morris

Kelly Mescher, Esq.
Phillip J. Hoskins, Esq.
For the Respondent

BEFORE: THEODOR P. VON BRAND
Administrative Law Judge

RECOMMENDED DECISION AND ORDER

FINDINGS OF FACT

I. Identity of the Parties

A. Respondent

1. The Missouri University Research Reactor (MURR) is operated by the University of Missouri. It holds Nuclear Regulatory Commission License 24-00513-36E and Nuclear Regulatory Materials License 24-00513-34 and License R-13. (Stipulation of Fact No. 1).

2. MURR is the largest research reactor in the country. (Zinn 197). The University derives annual revenues in the area of $6 million from the reactor. (Sheridan 980). MURR is a relatively large organization by University of Missouri standards. It has 120 full time employees and about 80 part-time employees. (Rhyne 1012). Currently there are 20 to 25 research and senior research scientists at the reactor. (Zinn 169-170). It is considered a close knit community. (Morris 397; Rhyne 1032).

3. MURR has a Director, Dr. James Jennings Rhyne, an Associate Director, Charles McKibben, and an Assistant Director, Bill Reilly. (Rhyne 1012). The reactor's Director reports to the Vice Provost of the University. (Sheridan 93, et seq.). Mr. McKibben is the direct supervisor of Mr. Reilly. (McKibben 843).

4. The research reactor at the University of Missouri is a source of neutrons for irradiation of samples to make them radioactive, producing, for example, radioisotopes for medical treatment. Such irradiation is also a tool for the analysis of materials. (Glascock 65).

5. The reactor routinely ships radioactive materials. (Morris EX 60). It makes on the order of 2,000 such shipments a year. (McKibben 790).

B. Complainants

6. Kurt R. Zinn is a research scientist at the Missouri University

research reactor in Columbia, Missouri. (Zinn 169). He has four degrees from the University of Missouri, a Bachelor's Degree (1981), a Master's Degree in Chemistry, a Doctor of Veterinary Medicine (1986), and a Ph.D. in Biochemistry (December 1992). (Zinn 165-166).

7. Dr. Zinn began as a research scientist at MURR in 1983 or 1984. (Zinn 167). In 1986 he became a research scientist at the reactor in a position created for him. He has worked at MURR in that capacity since 1986. (Zinn 169). His current rate of pay is $42,000.00 a year. (Zinn 213).

8. Until March 11, 1993, Dr. Zinn was in the Analytical Epidemiology Nutrition and Biochemistry Group, sometimes referred to as the Epidemiology Group. Dr. Steven Morris was the group leader. Dr. Tondra Chaudhuri, Dr. Zinn's wife, was also a member of the group. (Zinn 170-171).

9. Dr. Zinn's research at the reactor involves utilizing neutrons to make radioactive isotopes. He also developed instrumentation to measure many isotopes simultaneously. (Zinn 172). His area of research is in two general areas, nutrition and radiopharmaceutical development. (RX 31).

10. Dr. Zinn, as part of his work at MURR, frequently ships radioactive materials, i.e., radioactive isotopes. (Zinn 173). He sends 50 to 75 such shipments year to such institutions as the National Institute of Health and other universities. (Zinn 173).

11. Steven J. Morris, a PhD. in Chemistry, has been an employee at MURR since 1973 in various capacities. His work has been consistently related to nuclear analysis. (Morris 365-366). In 1981 he became adjunct professor of chemistry and in 1983 he was appointed group leader of the nuclear analysis group. (Morris 367). He held that position until he was designated interim director of the reactor for the period 1989 through 1990. He returned to the group leader position in 1990, holding that position until March 11, 1993, when he was demoted to senior research scientist. His research is in the life

sciences area, specifically in the area of analytical epidemiology. (Morris 367).

12. Dr. Morris was Dr. Zinn's supervisor when the latter was hired as a research scientist at MURR. (Morris 370). Their relationship is close. Dr. Zinn described Dr. Morris as his mentor. (Zinn 355-356).

Identity of Various MURR or University Officials and Employees

13. James Jennings Rhyne is a solid state physicist. He is the Director of the research reactor at MURR and also a physics professor of the University of Missouri faculty. (Rhyne 999). Dr. Rhyne's education includes a Ph.D. in condensed matter physics. (Rhyne 1000). He became Director of the reactor in December of 1990. (Rhyne 1002).

14. James McKibben is a nuclear engineer and associate director of the research reactor. Previously he was the reactor manager for the period 1978 to 1989. (McKibben 775). One of his primary duties is regulatory compliance with federal regulations and licenses, i.e., NRC regulations. He is also concerned about budget and personnel matters. He focuses on the operations end of the reactor including supervision of the reactor manager, the facilities manager, and the health physics manager. His immediate supervisor is Dr. Rhyne. (McKibben 776). Mr. McKibben also gives a lot of supervision to the assistant director Bill Reilly. (McKibben 777). In addition, he directly supervises Steve Gunn in the services area. (McKibben 777).

15. Bill Reilly is the assistant director at the reactor and he has been with the reactor since 1987. He assumed his present position in September of 1988. Essentially Mr. Reilly's function is that of a business manager, he oversees the service applications group and accounting functions. Service applications is Steve Gunn's organization. (Reilly 863).

16. Steven Louis Gunn is the reactor service engineer at MURR. He has held this position since 1974. The shipping of radioactive isotopes is one of his responsibilities. (Gunn 634).

17. Walter Meyer is the reactor manager at MURR. He has been in an acting capacity in his present job since 1985. (Meyer 553).

18. Judson D. Sheridan is Vice Provost and Research Dean at the graduate school at the University of Missouri at Columbia. He is also a professor in the Department of Physiology and in the Division of Biological Sciences. He is responsible for overseeing from an administrative point of view the operations of the Missouri University research reactor. (Sheridan 934-937).

19. Gerald Brouder is Provost at the University of Missouri at Columbia. He has held this position approximately three and a half years. The Provost is the chief academic officer for the University. As such he has responsibility for all facets of teaching, research and outreach activities. (Brouder 583).

Relationship of the Research Reactor to the University Campus

20. The University campus became responsible for the research reactor a few years prior to the hearing herein in 1993. Before that, the University system was responsible for the reactor. The University system is basically a coordinating body which is purely administrative and has no specific responsibilities for academic programs. When the campus of the University took responsibility for the reactor, it was assigned to the graduate school, an academic unit reporting to the Provost of the University through the Vice Provost. At the time of that transition, Dr. Morris was the reactor's interim director. (Brouder 584-585).

21. The reactor as it had reported to the University system had been both a research and a service entity including commercial services such as topaz irradiation, etc. (Brouder 585-586). After the University became responsible for the reactor, the decision was made to make the reactor more of an academic entity. (Brouder 585-586).

22. When the reactor came under the jurisdiction of the Columbia campus, the decision was made to look for a director with academic credentials who could

fully meet the criteria for tenure, specifically, a nationally recognized scholar. That search lead to the appointment of Dr. Rhyne. (Brouder 586).

23. According to Dr. Rhyne, he was directed to enhance the integration of the campus and reactor in the sense of drawing faculty into the administration and research of the reactor. In this connection he was instructed to enhance the ties between the reactor and campus, upgrade the reactor staff, emphasize research and deemphasize project or service orientation. (Rhyne 1002-1003).

24. When Dr. Rhyne came to the reactor there were roughly four research groups. When he reorganized the reactor, the research groups expanded to twelve. Faculty members were made group leaders of four of the groups as part of the reorganization. This was the first time that faculty members had been incorporated into the administrative structure of the reactor. (Rhyne 1006). The idea of bringing in faculty members as group leaders met with resistance from Dr. Morris and others on the reactor staff. (Rhyne 1032; Glascock 160). The proposed joint appointments at the reactor and on the faculty also met with opposition on the reactor staff. The feeling was that reactor staff who could not attain a joint appointment would be "second or even now third class citizens." (Glascock 160).

25. There has been tension among the reactor scientists because of the feeling that the academic faculty had an advantage over the MURR staff. (Glascock 110). Specifically there has been tension between the reactor staff and certain of the faculty, because they are tenured and reactor scientists are not. Dr. Rhyne is the only individual at the reactor with tenure. (Glascock 162). Among the reactor staff there has also been a long standing split between scientists in the life science area and others in the material sciences. (Rhyne 1024).

Service Functions of the Reactor

26. The service functions of the reactor include the following: irradiation of topaz stones to change the color to blue, which generates a significant fraction of the reactor's income, irradiation of isotopes for medical purposes, and irradiation of silicon for electronic devices. (Glascock 83).

27. It is an accepted fact that reactor scientists are expected to contribute towards generating income for the reactor. MURR service generates such income. (Glascock 164).

The Shipping Task Force and the Irradiation Subcommittee

28. A shipping error occurred on July 27, 1992. Two radioactive holmium samples were mistakenly switched and shipped to the wrong customers. The customer expecting the smaller amount of radioactive activity received the larger amount. (McKibben 778; Zinn 174-175).

29. As a result of that shipping error Charles McKibben, in early August 1992, appointed the Shipping Task Force to review the total shipping program, i.e., the "global review" thereof; the July 27, 1992 error being the second error within a year. (McKibben 781, Zinn 176). Dr. Zinn was invited to participate on the Shipping Task Force. (McKibben 782). McKibben in a general way kept Dr. Rhyne advised of developments at the Shipping Task Force. (McKibben 848).

30. The first meeting of the Shipping Task Force was in early September of 1992. Initially Steven Gunn was asked to chair this group. (McKibben 785).

31. As a result of the July 27, 1992 shipping error, an enforcement conference was held in Glenellyn, Illinois on October 2, 1992, by the NRC. (Gunn 661, Zinn 177). At that conference NRC officials stated in effect that if the reactor shipping problems were not solved they would shut the reactor down. (Gunn 661, 663). Charles McKibben, the Associate Director of the reactor, was concerned that the NRC might halt shipments. (McKibben 843-844). James Rhyne, MURR's Director, shared the concern that the reactor could be shut down in case of another violation. (Rhyne 1073). In fact, as a result of the enforcement

conference there was general concern among MURR employees concerning the reactor's NRC license. (Meyer 560).

32. During the October 8, 1992 meeting of the shipping task force, Dr. Zinn and Steven Gunn, then the chairman of that group, had a disagreement over how the global review should proceed and the areas that should be examined in the global review. (Zinn 180). The disagreement related to reviewing the target composition of samples and determining the radioactivity induced in samples following neutron bombardment at the reactor so that MURR could be certain of the identity of the radioisotopes in the sample. This is prerequisite to labeling the packages correctly for shipment. (Zinn 180). According to Zinn, Steven Gunn did not favor an investigation to determine if this issue was important. Mr. Gunn got very angry, stating to Zinn that the Complainant simply wanted to shut the reactor down. (Zinn 180-181). Gunn agrees there was a heated exchange. (Gunn 636, 654).

33. In short, at that point, the Shipping Task Force was focused on the problem of mix ups in the packaging and destination of irradiated samples and the remedies therefor. It was not focused on the more fundamental problem that in certain instances the radioactivity of the packages to be shipped was unknown. (Morris 398). Put another way "You would like to get the envelope stuffed correctly before you worry about putting the address on." (Morris 399).

34. According to Dr. Zinn, the minutes of the October 8, 1992 meeting did not refer to his concern about the target composition problem that he had expressed in that meeting. (Zinn 181). According to Gunn, Zinn's concern was related to reporting requirements for trace elements. Gunn felt that this question, although relevant, was not at issue in dealing with the violation under consideration. (Gunn 636).

35. After that meeting Dr. Zinn expressed his concerns to Dr. Morris that the individual in charge of the program, i.e., Steve Gunn, should not be in charge of the review of that program. (Zinn 182). Dr. Zinn told Dr. Morris that

he contemplated resignation from the Shipping Task Force. Dr. Morris replied that Zinn's concerns were valid and that he should not withdraw from that committee. (Zinn 182). When Dr. Zinn expressed these concerns to Charlie McKibben, the associate director, the latter made himself chairman of the Shipping Task Force. (Zinn 183).

36. Dr. Zinn's concern was that no calculations were being done to determine the amount of radioactivity induced in samples. (Zinn 184). This he felt was crucial; if no one was doing such calculations and the reactor was relying only on the representations of the customers as to the composition of the samples, there was a possibility of over exposure to radiation by MURR employees, the general public, or someone receiving the shipment after radiation. (Zinn 184).

37. When Dr. Zinn received notice of a December 10, 1992 meeting of the Shipping Task Force, he called Wei Jia, who was in charge of a subgroup in the services group receiving samples for radiation, irradiating them and then shipping them out of the reactor. (Zinn 184-185). Zinn at that point was frustrated because he felt that his concerns were not being addressed. He taped the conversation with Wei Jia because he wanted evidence of what was taking place in the global review. (Zinn 185). As a result of his conversation with Wei Jia, Zinn felt that his concerns were not being followed up. (Zinn 186).

38. On December 10, 1992, Dr. Zinn distributed at the meeting a memorandum he authored concerning P-32 shipments. Therein he stated that MURR shipped P-32 without listing the S-35 component on the shipping papers and that S-35 accounted for greater than ten percent of the total radioactivity at shipping. Dr. Zinn concluded that memorandum stating,

> The MURR took great pride recently in a press release about the fact we supply the country with high specific activity P-32. This radionuclide perhaps accounts for the largest number of radioactive shipments from the MURR.
>
> The problem with S-35 in P-32 has been pointed out to MURR management on several occasions, and no action has been taken on this matter. Perhaps the MURR management (ie Charlie McKibben)

should explain to the Shipping Task Force the reasons why Ci amounts of S-35 are not reported on the shipping papers for P-32 shipments.

(Zinn EX 17) (Emphasis supplied)

39. According to Dr. Zinn, the failure to disclose the sulphur 35 content in the P-32 shipping papers could lead a recipient to believe that such radioactivity was not there and thus the recipients might not take it into account in handling the shipment. (Zinn 189-190). At that point Dr. Zinn felt that he had to put his concerns in writing since he felt they were not being addressed. (Zinn 189). In summary, Dr. Zinn felt that the other members of the Shipping Task Force were not taking seriously the question of calculating the induced radioisotopes and the amounts of resultant activity in the shipments from the reactor. (Zinn 191).

40. When Dr. Zinn brought his memorandum of December 10, 1992, to the Shipping Task Force meeting of that date, the memorandum was discussed and Charlie McKibben appointed the Irradiation Subcommittee comprised of Zinn, Walter Meyer, Wei Jia, Steve Gunn and Jim Schuh from the Health Physics group. (Zinn 192). The subcommittee was directed by McKibben to look into Dr. Zinn's concerns. (Zinn 347).

41. Dr. Zinn, after the December 10, 1992 meeting, as a member of the irradiation subcommittee, requested Wei Jia to furnish information concerning irradiated samples and he began to look at what was being irradiated. (Zinn 192).

42. On December 16, 1992, Dr. Zinn discovered a shipping error with respect to YHerbium which had been sent in by a customer to be irradiated. Neither the customer nor MURR had considered the irradiation caused by the production of another isotope, which meant that the radioactivity of that shipment after processing at the reactor would be drastically under reported. According to Dr. Zinn, he was concerned that no one at the reactor had checked to see that all induced radioactivity was calculated and this was a problem that he had been trying to get the Shipping Task Force to address. (Zinn 193-194).

43. At the December 17, 1992 meeting of the irradiation subcommittee, Dr. Zinn distributed his memorandum of that date outlining the concerns he had previously raised in the October 8, 1992 meeting. He summarized his concerns as follows:

> In summary, customers send targets to be irradiated at the MURR. The customers do not fully identify the constituents of the targets, nor do they identify all major radioisotopes that can be induced by neutron irradiation. MURR staff do not calculate the activities that are induced, rather they accept and use the customers amounts (and radioisotopes) for shipping. MURR staff do not attempt to obtain further information about the targets. The MURR has no knowledge about the training of the customers that are submitting irradiation requests to the MURR. The requirements for neutron irradiations are completely opposite for in-house scientists. Individuals such as myself must provide all details about targets, radioisotopes induced, and how radioisotopes will be induced, before targets can be irradiated in the reactor. Furthermore procedures are written to explain how radioisotopes are processed, and these procedures are reviewed by the Isotope Use Subcommittee when higher amounts of activity are produced.
>
> A preliminary review by myself of the mechanism that reactor services uses to allow irradiations has identified major problems with the currently used irradiation and shipping procedure by outside customers, which could lead to NRC violations and other liabilities (Perhaps mistakes that I have identified thus far should be self-reported to the NRC?). I do not understand why corrective action has not been taken on this matter. I do not understand how the MURR can continue to operate on a "status quo" basis, when there are so many examples of mistakes created by this process. I suggest that no further irradiations and shipments be allowed for customers that make such requests, until such time that appropriate review of the irradiations can be conducted. At this time I am not suggesting that in-house irradiations and shipments be halted, since these procedures have already been reviewed.
>
> (Zinn EX 18) (Emphasis supplied)

That memorandum was copied to James Rhyne, Charles McKibben, Bill Reilly, Steven Morris, and Sue Langhorst. (Zinn EX 18). Dr. Zinn's findings concerning YHerbium were the genesis of the December 17, 1992 memo. (Zinn 196).

44. Another reason for writing this memorandum was because his prior oral statements on the subject had not been included in the minutes of the subcommittee and because his concerns had not been acted on. (Zinn 196).

45. According to Dr. Zinn, he was concerned by Steve Gunn's statement minimizing the importance of the problem. (Zinn 197). Walt Meyer on the other hand, in Complainant's view, did take these concerns seriously. (Zinn 197).

46. Dr. Zinn felt that the problem would not be difficult to remedy but did feel at the time that the reactor should stop shipping all radioactive materials until they could review what radioisotopes were induced in the samples and had determined the sample composition with certainty. (Zinn 198). This, in the view of Dr. Zinn, would not have taken more than a few weeks. (Zinn 200). According to Dr. Zinn, management of the reactor has not stopped shipments and to this day many of the customers are not taking the steps necessary for identifying the composition of their samples. (Zinn 199).

47. On January 6, 1993, Dr. Zinn wrote another memorandum to the irradiation subcommittee setting forth his concerns about unlisted radioisotopes involved in the shipments. (Zinn EX 15). Zinn EX 15 was copied to Charles McKibben and James Rhyne. (Zinn 204).

48. After the December 17, 1992, meeting Bill Reilly indicated to Dr. Zinn that he would like to speak to him. Reilly was responsible for writing the minutes of the irradiation subcommittee, although not a member of that committee. Reilly stated he wanted to be sure that Zinn's concerns had in fact been looked at. Zinn responded he was not satisfied with what had been done up to that point. Reilly was upset stating that Zinn's memorandum could be considered very damaging to the reactor in the future and, according to Zinn, suggested that it would not be a good idea to put anything more in writing. (Zinn 201-202). Dr. Zinn felt that if a member of the Director's office was coming to him and making statements of that nature he was running the risk of adverse actions taken

against him. (Zinn 203-204).

49. Zinn EX 16 is a January 7, 1993, memorandum from Zinn to Bill Reilly. This was Dr. Zinn's comments on Reilly's minutes of the December 23, 1992, irradiation subcommittee meeting. Dr. Zinn summarized his concerns in that memorandum as follows:

> In summary, MURR irradiated a Yb target for Amersham and shipped 16 mCi of Yb-169. Subsequently we have determined the 16 mCi should be 96 mCi of Yb-169, and that approximately 4-5 Ci (Curies) of Yb-175 should also have been listed on the shipping papers. I do not feel that simply referring to the Yb-175 activity as "being higher" is a true reflection of the 50-fold higher activity for Yb-175. Also, I have a question about whether these errors are NRC shipping violations, and if so, shouldn't they be reported?
>
> Your second large paragraph beginning "It was agreed . . ." should include the following sentences at the beginning of the paragraph. The past practice of the MURR Services group was to allow customers to irradiate targets that were not completely identified either by isotopic enrichments, or total composition. Furthermore, the customers were allowed to determine the radioactivities that were induced and shipped, and these calculations were not checked by the MURR Services group.
>
> (Zinn EX 16) (Emphasis supplied)

50. Dr. Zinn wrote Zinn EX 16, the January 7, 1993, letter to Reilly, because he was concerned the minutes were not correctly reflecting what was known about the YHerbium sample. (Zinn 205-206, 207). He further felt that the minutes as written by Reilly did not reflect what was happening at the meeting. (Zinn 208).

51. Dr. Zinn and Dr. Morris on a regular basis discussed the work of the irradiation subcommittee. Dr. Morris, moreover, participated on Dr. Zinn's behalf in some meetings with respect to a letter that had to be submitted to the NRC by January 15, 1993. (Zinn 208). Dr. Morris participated in such meetings of the irradiation subcommittee in the period from January 6, 1993 through January 15, 1993. (Zinn 209).

52. The reactor was to give the NRC a progress report on the global review with respect to the shipment of radioactive materials on January 15, 1993. (Zinn

210). Dr. Zinn was concerned that not all of his findings would be reported in the January 15 report to the NRC. This concern arose from conversations with Steve Gunn, Dan Trokey and Bill Reilly who urged that findings of specific examples should not be included in the letter. (Zinn 210-212). Reilly advocated limiting the response to a general statement of the issues involved in Zinn's concern. (McKibben 805). Ultimately, the letter was drafted to include the three most significant examples where radioactivity of shipments had been under reported. (Meyer 558-559). Zinn felt that in this respect Meyer, the reactor manager, was as supportive as he could be. (Zinn 353).

53. On February 7 or 8, 1993, Dr. Morris informed Dr. Zinn that the former had written a letter asking for Zinn's promotion and been informed that it would be put on hold. (Zinn 213).

54. On the morning of March 9, 1993, Walt Meyer was prepared to present the information from the irradiation subcommittee to the NRC investigators. Charlie McKibben and Bill Reilly came in and talked to him and McKibben asked Meyer if he would be willing to present the information differently than he had prepared it. The alternatives were to hand the NRC inspectors the minutes of the meeting plus all of the attachments, including the Zinn memoranda, or to hand the inspectors only the minutes of the irradiation subcommittee, holding the attachments, and then giving the inspectors the attachments such as the Zinn memoranda, if they asked for this material. The data in issue was information from Dr. Zinn with respect to the failure to identify activity on isotopes. (Meyer 556-557). Meyer advised McKibben and Reilly that withholding the attachments such as the Zinn memoranda was not the way to go, because as chairman of the irradiation subcommittee he had referenced Dr. Zinn's memoranda in the minutes. (Meyer 557-558, Reilly 875-876).

55. During the course of the on-site NRC investigation in the period March 9-11, 1993, Dr. Zinn had an hour and a half interview with the NRC investigators.

They advised Dr. Zinn that in their view his activities had saved the University from the most serious or level I violations and complimented the irradiation subcommittee on Zinn's work. (Zinn 234-235; Morris 459-460; Gunn 674). He was also complimented by Dr. Rhyne and McKibben after the NRC exit interview. (Zinn 235-236; Rhyne 1051).

56. On March 11, 1993, after the conclusion of the NRC investigation, Dr. Morris advised Zinn of Morris' demotion. Zinn felt this affected him adversely because the dissolution of Dr. Morris' group would put him in limbo. (Zinn 216). Thereafter Zinn was told to report to Charles McKibben who is not a scientist and of whom he had been indirectly critical in connection with his irradiation subcommittee work. (Zinn 216).

57. After Dr. Morris' demotion, Dr. Zinn called the NRC and wrote them a letter of complaint on March 16, 1993. The NRC advised him of the whistleblower statutes and he thereupon sent his letter of complaint to the Department of Labor, dated April 7, 1993. (Zinn 216-218, Zinn EX 25).

Dr. Morris' Involvement with the Shipping Task Force and Irradiation Subcommittee

58. Dr. Morris attended meetings of the Shipping Task Force or Irradiation Subcommittee involving the January 15, 1993 report to be submitted to the NRC relating to the global review. Dr. Morris filled in for Dr. Zinn at certain of the meetings and then later attended meetings with him as the letter was being finalized. Dr. Morris at those meetings was concerned because it was unclear to him whether the results of Dr. Zinn's work or that of the irradiation subcommittee in general were to be included in the letter to the NRC. Dr. Morris expressed those concerns in the presence of Associate Director McKibben and Assistant Director Reilly. Steven Gunn was also present. Specifically, Dr. Morris was concerned that the substance of Dr. Zinn's findings were not getting

into the earlier drafts of the letter. Finally, Walt Meyer produced a handwritten draft including Dr. Zinn's concerns. (Morris 401-405, 408).

59. In attending these meetings, Dr. Morris viewed his role as that of trying to hold up Dr. Zinn's end of the argument. (Morris 409). Dr. Morris had also expressed these concerns in other subcommittees of which he was a member, e.g., the reactor services subcommittee and the safety subcommittee. (Morris 410, 443).

60. According to Dr. Morris, the split at the meetings was as follows:

> Yes. I would say that the way it split using Morris as the detector was that Morris and Zinn and Walt Meyer were carrying the argument not only for including them, but for including them in a way that the NRC could read a [sic] the letter and get some sense of the magnitude of the problem.
>
> There were other people there that I think favored including them, but perhaps indicating that there were some target certification problems and that we were going to get to that in future reports.
>
> Perhaps there were even other people there that felt that we should be silent on those matters all together.
>
> (Morris 410-411)

61. Dr. Morris had the impression that Mr. Reilly favored an approach limiting the January 15, 1993, progress report to the types of violation received from the NRC, i.e., the address switching errors. (Morris 411).

The Exempt License Controversy

62. The reactor has commercialized a process to irradiate silicon resulting in a product called neutron transmutation doped silicon or NTD silicon. (Morris 412). NTD silicon is a semiconductor material used for electronic devices including communications equipment. Currently the NTD silicon is being shipped overseas from MURR and is not regulated by the NRC. (Morris 415). The NTD silicon process produces significant revenues for MURR on the order of one

million dollars a year. (Morris 413). Fifteen thousand to 20,000 pounds of NTD silicon are shipped annually, most of it going to Japan. (Morris 417).

63. An exempt license is an NRC license which requires holders of the license to demonstrate through testing that the materials are at or under concentrations of radioactivity which the NRC considers below regulatory concern. No license for NTD silicon has been required to date because the NTD silicon is shipped exclusively overseas to non-domestic companies. (Morris 414, 424). An exempt license would be required if the reactor were to release NTD silicon to the unlicensed public in the United States. In the fall of 1991, the decision was made to apply for an exempt license. (Morris 418).

64. Dr. Morris, when approached by MURR management, indicated he agreed that it was a good idea to get an exempt license. (Morris 419). He stated, at the time, that in his view the testing program under the license should be applied to all NTD silicon whether its destination is domestic or foreign. (Morris 420; see also Morris EX 19, Tr. 422). This position brought Morris in conflict with Assistant Director Reilly who felt that application of the exempt license if received would not be required in the case of silicon released overseas. According to Morris, Reilly's position was the license should be utilized only on materials shipped in the United States, and current testing would suffice for foreign shipments. (Morris 420).

65. Dr. Morris sees the ethical concern as follows:

> I can see no justification for applying one testing program to materials released in the United States and another testing program, one which would not have the same degree of accountability, to materials that are released to the Japanese or to the Europeans or elsewhere in the world.
>
> I think the ethical concern is that once you developed a superior testing program -- the one you use -- that it needs to be applied to all relevant materials.
>
> (Morris 433)

The discussion on this issue has been ongoing since the fall of 1991. (Morris

422, 427-430; Morris EX 93 p. 6).

66. According to Dr. Morris it is Mr. Reilly's position that accepting Morris' view would be unduly costly and is not required by law or regulations. Mr. Reilly would apply the exempt license only to domestic shipments of silicon. (Morris 422, 428; see also Reilly 880-881).

67. The NRC has taken the position that reimported materials must meet the exempt license concentration applicable to domestic shipments. (Morris 440).

68. On February 18, 1993, Dr. Morris communicated the following action of the exempt license subcommittee to Messrs. Rhyne, McKibben and Reilly:

> It shall be reported to the MURR Director that it is the consensus of the Exempt License Subcommittee that, within a period of six months of receipt of a license that meets the terms and conditions of the application, a QA testing program should be implemented and applied to all NTD-Semiconductor materials released by the MURR to the unlicensed public.
>
> (Morris 432; EX 93 p. 10; Morris 488)

69. The license application was filed in February 1993, but has not yet been granted. (Morris 434).

Reaction to Dr. Zinn's Protected Activity

70. Dr. Zinn had not distributed his letter of complaint to the Department of Labor but learned that everyone at the reactor had copies of it and that visitors to the reactor had also been given copies. (Zinn 218). The reaction, according to Dr. Zinn, was "there were people who thought I shouldn't have done that and came to tell me I shouldn't have done it." (Zinn 218-219).

71. Bill Reilly, the assistant director of the reactor, responded to Zinn's letter of complaint to the Department of Labor on April 30, 1993. (Zinn EX 6, Zinn 220). Reilly's letter was addressed to counsel for the University but he requested that it be circulated to the reactor's staff. (Reilly 221). It was in fact distributed by Steven Gunn at Reilly's request. (Gunn 673). Mr. Reilly who has an ear for a telling phrase stated in pertinent part:

. . . I am greatly distressed and incensed by the lies, half-truths and innuendos contained in Zinn's complaint.

I am also well aware of and support the individual and societal need to protect whistleblowers which has developed over the recent decades. And I am sufficiently enlightened to known that the process cannot be impeded although in carrying it out, one man's hero can be another man's Benedict Arnold. It is also unfortunate but true that the mechanisms that have been established to protect whistleblowers and others, such as those who allege sexual harassment, unavoidably provide opportunities for mischief by disgruntled or incompetent employees. A charlatan needs only to don the cloak of sanctimony provided by the whistleblower process to carry out a devious agenda with impunity.

. . . Beginning with his 12/10/92 memo and his actions at the Shipping Task Force Meeting on that date, Zinn began to act as a zealot in attempting to go through the isotope group files of previous radioactive shipments to dig up evidence of shipping errors. Although this was a week before the irradiation subcommittee to which Zinn had appointed to investigate such matters had its first meeting to organize its effort and although it was very disruptive to the day to day operation of the isotope group, Zinn was given full cooperation. . . .

Mr. Reilly concluded as follows:

I have only commented on items about which I have some personal knowledge, but it is clear to me that there have been no impediments to Zinn's involvement in protected activities as defined in 10 CFR 50.7. On the contrary, he has been granted full access and license to pursue his concerns about radioactive shipping at MURR. I find it completely implausible that there is any linkage between the fact that he was not promoted and his involvement in protected activities. I suggest that the twisted and contrived nature of the part of the complaint of which I have knowledge casts serious doubt on the entire document.

A final comment. As I was preparing this memo, an apt parody of an old song title continued to come to mind: "It's a Zinn to Tell a Lie". I can only hope that he deals more squarely with the facts in his research than he did in this complaint.

(Zinn EX 6) (Emphasis supplied)

72. McKibben agreed that Dr. Zinn's discovery of shipping errors benefitted the reactor but he clearly resented Zinn's "adversarial role [rather] than a more cooperative team role". (McKibben 812). The associate director, objected to Dr.

Zinn's memoranda pertaining to target composition as unduly adversarial. In this connection he stated in pertinent part as follows:

> Q Did you discuss with Dr. Rhyne at any time in characterizing Kurt Zinn's actions on the Shipping Task Force or the Irradiation Subcommittee was somehow improper?
>
> A No. I -- I probably -- If I made any -- And I don't know if I did. If I made any statement, I -- I may have commented about I -- I was bothered by the fact that I -- I didn't know about this sulphur 35, P32 until I'm sitting at the chair on a meeting that I've called and I get handed a piece of paper and I get kind of an adversarial type of position on it.
>
> I was bothered by that because I felt that we've -- we've had a good successful facility from a team approach to problems, but not all coming at from the same focus.
>
> And -- And I found myself in the position that I was having to work harder to try to get this group working -- working together and -- and to minimize these problems from an adversarial part.

73. Mr. McKibben's response as to whether he had conveyed these views to Dr. Rhyne was clearly evasive. However, on August 10, 1993, Dr. Rhyne in his personnel evaluation of Dr. Zinn stated in pertinent part as follows:

> I feel it necessary to mention that I perceive a serious attitude problem on your part with respect to MURR and University administration and to some degree with your colleagues. Your adversarial approach to policy decision, procedures, and discussions with your superiors really has no place in a scientific laboratory environment such as MURR. Much more can be accomplished by mutual respect and a collegial approach to concerns and problems. Persistence in an antagonistic approach can not help but negatively impact on your future relations with MURR.
>
> Summary: You have made a good start, and certainly have the potential to develop a truly outstanding research program in radio-biochemistry here at MURR. For the future I recommend that you carefully consider the recommendations in this evaluation.
>
> (EX 38) (Emphasis supplied)

Mr. McKibben was present on September 10, 1993, when Rhyne presented this memorandum to Zinn. (McKibben 852-853).

74. Bill Reilly, the Associate Director, on December 17, 1992, after the irradiation subcommittee meeting, met with Zinn. The main purpose of Mr. Reilly's visit to Zinn was to discuss the latter's December 17 memorandum. Reilly felt Zinn was acting like a zealot, and Reilly was concerned with Zinn's motivation, "Was it really a concern for health and safety, or was it a destructive motivation as far as MURR was concerned?" (Reilly 869). Reilly was concerned that Zinn wanted to shut down the reactor stating in pertinent part:

> Q Were you concerned that he wanted to shut down the reactor?
>
> A I thought that might be his motivation, yes.
>
> Q Did you come to the conclusion that that was his motivation?
>
> A I was ambivalent on that. I changed back and forth several times.
>
> It was accepted and common wisdom -- whether it was right or wrong it was common wisdom -- that any further violation, and this was our second violation of shipping within a year, would shut the reactor down.
>
> This, you know, was a very damaging thing to do, but it was something that had to be discovered and had to be explored.
>
> (Reilly 872)

At another point, Mr. Reilly stated:

> Q Do you believe in looking for those problems for which MURR was commended and the irradiation subcommittee was commended Dr. Zinn's purpose was to shut the reactor down?
>
> A I'm still not certain about that.
>
> (Reilly 895-896)

75. Reilly was concerned that at some later point if an NRC investigation was undertaken and Zinn's December 17 memorandum discovered, MURR would have been faulted for not self reporting the problem. (Reilly 894).

76. Steven Gunn, the reactor services engineer objected to the tone of Zinn's memos:

> And I -- And I have to talk about the tone of the memos. Everything that Kurt brought to us was never brought in person. It was also brought in a memo.

> The memos usually were accusatory. They were containing statements such as, you know, Contrary to the Director's Office. The way the copies were distributed, I came to the conclusion that Kurt probably had a dual agenda on this.
>
> (Gunn 642)

* * *

> The only thing that made me feel that he had two agendas was the memos and the way he wrote them and the distribution of them.
>
> (Gunn 643)

77. Mr. Gunn also felt that Zinn's memoranda were not in a problem solving mode and resented getting these memoranda without previous discussion. (Gunn 655, 672).

78. Mr. Gunn has had discussions with Dr. Rhyne and Mr. McKibben concerning Zinn's involvement in the Shipping Task Force and irradiation subcommittee. (Gunn 666).

79. On December 5 or 6, 1992, Steven Gunn advised Dr. Glascock of his concerns about Dr. Zinn's activities on the Shipping Task Force stating Zinn was being disruptive, that Zinn had an ulterior motive and might be looking into things that would get the reactor into trouble. (Glascock 84-85). At that time Gunn also told Dr. Glascock the NRC was not interested in the details about the samples coming into the reactor [referring to target composition]. (Glascock 85-86).

80. Dan Trokey in connection with Dr. Zinn's activities on the Shipping Task Force stated to Dr. Glascock that Zinn was looking for whistleblower protection because Zinn and Rhyne had come into conflict on other matters previously. He also said Zinn was exaggerating the hazards of failing to list other isotopes in shipments. (Glascock 89).

Dr. Zinn and the Promotion Process

81. Dr. Morris had agreed with Dr. Zinn to recommend the latter's promotion when he secured his Ph.D. (Morris 373). Dr. Morris recommended that Zinn be considered for promotion on February 3, 1993 (Morris 376, 527, Zinn EX 26). In

this connection, he requested that a committee be established to consider Dr. Zinn's promotion (Morris 376, EX 26). The first time a promotion committee was set up was in January 1993 for Dr. Neff. It had been requested on January 28, 1993 (Morris 375-376).

82. Dr. Morris had previously advised Dr. Rhyne that he would recommend Dr. Zinn's promotion when the latter secured his Ph.D. (Morris 382-384, 527). At the time that Dr. Morris requested the consideration of Dr. Zinn's promotion, he was not aware that promotion guidelines were being considered. He learned of them a short time later (Morris 378-379).

83. On February 4, 1993, a day later, Dr. Rhyne informed Morris that he would not go forward in considering Dr. Zinn's promotion, since the promotion policy was under development and that he did not want to initiate other promotions until that policy had been finalized (Morris 379, 526; Rhyne 1062). Dr. Morris, on February 8, 1993, requested Dr. Rhyne to reconsider his decision. (Zinn EX 24, Morris 381).

84. On February 12, 1994, attached to a memorandum from Dr. Rhyne was a "Draft Version of MURR Policy Guidelines" including promotion criteria from research scientist to senior research scientist. (Zinn EX 34; Morris 386). This was the first time that new promotion guidelines had been given to Dr. Morris. (Morris 386-387).

85. There was no indication to Dr. Morris, at the time he received the memorandum, that the promotion guidelines would go into effect the following week. (Morris 387). When he met with Dr. Rhyne on February 4, he was told it would be a couple of months until they went into effect. (Morris 387). Moreover, until February 12, he had not been advised that Dr. Rhyne was not considering Dr. Zinn for promotion (Morris 387-388) and he was never informed that Dr. Rhyne did not consider Zinn to be at the point where he should have been considered for promotion. (Morris 388).

86. Dr. Morris gave his written comments on the promotion guidelines to

Rhyne on February 15, 1993 (Morris 389-390, RX 6). At the February 23, 1993 meeting with the group leaders, Dr. Rhyne did not state that he had already adopted the promotions policy (Morris 390).

87. Rhyne had not told Dr. Morris prior to his demotion that Rhyne felt Dr. Zinn was not eligible or qualified to be considered for promotion. Nor did Dr. Rhyne criticize Dr. Zinn's qualifications prior to that point. (Morris 392).

88. On June 7, 1993, Dr. Rhyne submitted classification specifications Revision for Senior Research Scientists including the following requirement:

> A Ph.D. degree with emphasis in an appropriate area of science or engineering.
>
> Four to six years experience beyond the doctoral degree.
>
> (Zinn EX 11)

89. This requirement had not previously been contained in any of the promotion guidelines or classification specifications (Rhyne 1093). The classification specification submitted in June 1993 came after Dr. Zinn's involvement in the Shipping Task Force and irradiation subcommittee and after the filing of his Department of Labor Complaint. (Rhyne 1092-1093). If taken as an absolute, this requirement would have barred Dr. Zinn's promotion. (Morris 395).

90. According to Dr. Zinn, Dr. Rhyne expressed some concern about his independent research program, since his Department of Labor complaint, but criticism of that kind was not expressed prior thereto. (Zinn 324-325).

91. Dr. Michael Glascock recommended the promotion of Hector Neff from research scientist to senior research scientist in July of 1992 in a letter to Dr. Rhyne. (Glascock 69). In July of 1992, the promotion policy at MURR was not clear, except that it was the responsibility of a group leader to recommend promotion when he felt the time had come. (Glascock 70).

92. At the end of January 1993, Dr. Rhyne gave Dr. Glascock a letter stating

that they would go ahead with Dr. Neff's promotion. (Glascock 70). A committee to review Dr. Neff's suitability for promotion was convened at that time. (Glascock 71).

93. The drafts of the promotion criteria were not discussed prior to Dr. Neff's consideration for promotion. (Glascock 71). Nor did Dr. Rhyne indicate that the new promotion policy would be applied in considering Dr. Neff's case. (Glascock 72).

94. Dr. Rhyne's letter of January 28, 1993, specified these criteria to be considered in connection with Dr. Neff's promotion, including:

- Basic or Applied Research - 50%--Development of an independent research program, development of an international reputation in the field, securing peer-reviewed external funding, publication in major journals, invited presentations, national committees and review panels, etc.

- MURR Service - 25%--Work in support of MURR infrastructure, e.g. internal committees, service work for other groups, general instrument development, income generating work, etc.

- MU-MURR Collaborative Service - 25%--Development of collaborative research programs, classroom teaching, supervisor or committee member of Ph.D. or M.S. students, University-wide or departmental committees, etc.

(Glascock 73-74, Zinn EX 12)

95. Dr. Neff did not meet the service requirement. (Glascock 74). Dr. Rhyne's only comment on February 15, 1993, was that in the summer of 1992 he had criticized Dr. Neff on this point and that he needed to do more service. In fact, after December of 1992, Dr. Neff did less service. Dr. Zinn, in fact, met these criteria. (Glascock 75).

96. Dr. Glascock, who has supervised both Dr. Neff and Dr. Zinn, considers both to be equally qualified for promotion. He considered Dr. Zinn's research to be at the highest level (Glascock 76-77). On September 2, 1993, Dr. Rhyne stated to Dr. Glascock "that a trained monkey could have filtered out Dr. Zinn as not being qualified for promotion" (Glascock 100).

97. According to Dr. Rhyne, around February 23, 1993, he met with Dr. Morris advising that Dr. Zinn was not eligible for promotion because he fell short in the following areas: development of an independent peer reviewed external grant supported research program; invitations to present papers at major national meetings or international meetings based on his research; mentoring of graduate students. In Dr. Rhyne's view, Dr. Neff met those criteria. (Rhyne 1063-1066).

98. Dr. Rhyne began to formulate promotion guidelines in the fall of 1992. RX 51, a copy of the promotion guidelines, has an original date of October 5, 1992, and revision dates of December 21, 1992, and February 15, 1993. (Rhyne 1033). It was an evolving document but did not change in its essentials from October 5. (Rhyne 1034). The document was submitted to the Internal Advisory Committee (IAC) formed in December 1992 and discussed at the IAC meetings in December 1992 and January 1993. (Rhyne 1035). Subsequently, this packet was sent to the group leaders and managers for their review and comments. (Rhyne 1035).

99. Dr. Rhyne outlined the promotion process he intended to implement as follows:

> . . . My promotion guideline simply said the process would be the following. If the group leader recommended for promotion someone I would then first look at the dossier in the sense of the performance evaluation form and the CV and make a preliminary check there whether I thought that based on those two self evaluation documents the person was ready for promotion.
>
> If I felt that the person was ready for promotion I would then form a committee to seek outside letters of recommendation and to assemble a packet which would become the promotion packet to be forwarded back to my office and then eventually to Dr. Sheridan. (Rhyne 1038)

100. Dr. Rhyne admitted Dr. Neff was weak in the service category but felt this was not disqualifying, stating:

> Yes. I would agree that he was weak in that category. That category is an area which we expect people to spend 25 percent of

their time approximately in. A weakness in a category amounting to only 25 percent, as long as the individual is strong in the other two categories, is certainly no reason for denying promotion. (Rhyne 1067; See also Tr. 1096-1098)

101. Such an exception to the Service Requirement, which Rhyne claims is implied, is not, however, contained in the promotional guidelines as written. (RX 51, See Rhyne Tr. 1098). Dr. Rhyne asserts he used the same promotion guidelines, RX 51, to evaluate Drs. Zinn and Neff. (Rhyne 1068).

102. Dr. Rhyne concedes that Dr. Zinn has done a good job and that the quality of his research is good (Rhyne 1100).

The Relationship of Drs. Rhyne and Morris and Dr. Morris' Demotion

103. Initially, the relationship between Drs. Morris and Rhyne was good. Within a couple of months, however, Rhyne felt there was a distance coming between them. Rhyne kept getting rumors that things were being said that were in opposition to the direction that he was trying to take the center. According to Rhyne, "I felt stressed." (Rhyne 1010-1011).

104. Dr. Rhyne respects Dr. Morris professionally. Dr. Morris has developed the nuclear analysis program to be one of the finest in the country. (Rhyne 1011).

105. Before coming to the reactor Dr. Rhyne had been warned by Dr. Werner on the Physics faculty and by Dr. Boullane Hammouda, a former MURR employee, that Dr. Morris might covertly oppose the new directions in which he was trying to take the reactor. (Rhyne 1011-1012).

106. It was common knowledge at the reactor that there was long standing tension between the Nuclear Analysis Program and the Director's Office. (Ernst 709-710).

107. Friction had developed over a range of issues. Dr. Rhyne resented the fact Dr. Morris had circulated his comments on Rhyne's proposed personnel evaluations and related proposals to the junior staff who shared Dr. Morris'

negative response. (Rhyne 1017-1018).

108. Dr. Morris' actions in circulating memoranda in connection with the building addition also upset Dr. Rhyne. Towards the end of 1991, according to Rhyne, it became necessary to downsize the addition because of budget restrictions. (Rhyne 1020). Dr. Rhyne described Morris' action as follows:

> Dr. Morris wrote a memo to a selected group of individuals, not just the people he was responsible for in his focus group but to at least two other individuals who are on the distribution list, in the first place saying that the director's office had made a unilateral decision to remove all of the laboratories associated with NAP from consideration in the design plan and for consideration by the board of curators.
>
> (Rhyne 1020-1021)

109. Rhyne, who had not been copied on Morris' memo, received heated letters from faculty members, who on the basis of Morris' memorandum, considered they were adversely affected. (Rhyne 1021-1024). Rhyne felt this episode affected his credibility. (Rhyne 1024-1025).

110. Dr. Rhyne, with respect to Morris' memorandum on space allocation, complained to Dr. Morris that he had difficulty with supervisors misrepresenting developments at the reactor outside the center, and was concerned when Rhyne was not copied with such memos. (Rhyne 1028).

111. On July 2, 1992, Dr. Morris sent a memorandum strongly objecting to a proposed budget generated by the director's office. The memorandum stated in pertinent part as follows:

> I found this budget process to be distressing and have pondered several alternative means of protest finally settling on this memorandum. I feel as if there is a general lack of sensitivity on the part of the Director's Office which I hope can be changed. I am also frustrated by what appears to me to be an inconsistent approach take with regard to the research specialists in the Analytical Group. I strongly object to a budget process that requires portions of the salaries of long-term, productive and valued employees to be requested from a "supplemental" budget category which will be allowed "resources permitting". This is

> particularly insulting when one considers how arbitrary the process is. . . .
>
> * * *
>
> . . . In the Analytical Group, there is no way to avoid making requests for support of personnel from this supplemental category. Since a caveat was included in the June 1 budget instructions stating that requests from this category would be funded only if resources permit, this places a number of persons in my group in some significant risk of being layed off or terminated if the memo means what it says. If so, I believe that this is the singularly most insensitive mistreatment of a narrowly targeted set of MURR personnel that I have witnessed in my 19 years at the MURR. . . .
>
> * * *
>
> In summary, I have been forced by this process to request almost 43,000 dollars in supplemental support of S&W to cover long-term productive employees having substantial duties related to the operational, research and educational base functions at the MURR. Supplies used by all groups are not covered in the base, even the rental of the liquid nitrogen tank. QA is over-subscribed now, there are plans to expand production of topaz, perhaps add NTD-Si, and the budget doesn't cover the current operation. Reactor Sharing seems to be taking a new direction which concerns me. As a result I believe that an unrealistic expectation of the NAP and particularly the Analytical Group now exists which I would like to resolve.
>
> (RX 14)

112. Dr. Rhyne was aware of offsite staff meetings by certain members of the staff. He had no serious objection but would have preferred that such staff members talk to him directly. (Rhyne 1039-1040). In any event, Dr. Sheridan advised Rhyne that he had been informed by a senior staff member that Dr. Morris had proposed a vote of no confidence or petition of no confidence with respect to the Director. (Rhyne 1040). Rhyne talked to a number of staff members concerning the incident and concluded such a vote had been proposed but silently rejected by the majority of those attending the meeting and that the matter was not pursued. (Rhyne 1040-1041).

113. According to Dr. Rhyne, none of the foregoing incidents in isolation were grounds for taking personnel action against Dr. Morris. But considering the

sum total of those instances he felt that something had to be done. (Rhyne 1041).
The scale, as far as he was concerned, tipped around January 1993 or early
February 1993. At that point he was getting increasing comments from members of
the MURR staff that things were out of control. He heard from one research
associate that the feeling was that Morris and his group were running the center.
He heard similar comments from individuals on the campus. (Rhyne 1041-1042)

114. Dr. Rhyne began to consult individuals in the center and faculty members
on the campus who had a long-term association with the reactor, on the subject
of Dr. Morris. (Rhyne 1043). The fact that Dr. Morris was an influential
individual at the reactor where a lot of people had a great deal of respect for
him was a consideration. (Rhyne 1047). Rhyne denies that Morris' position
supporting Zinn on isotope reporting errors was a factor in Rhyne's personnel
decision. (Rhyne 1052).

115. Dr. Rhyne met with Drs. Sheridan and Werner to discuss Dr. Morris. He
recommended removing Dr. Morris as nuclear analysis coordinator and group leader.
He felt removing him from management and stopping short of dismissal would be
sufficient. (Rhyne 1052).

116. One week later on February 26, 1993, Rhyne met with Provost Brouder to
inform him of the decision he and Sheridan had reached in the previous week and
to get his concurrence. (Rhyne 1054). Sheridan and Rhyne then exchanged drafts
of the demotion letter and Brouder approved the final version. (Rhyne 1054).

117. Charles McKibben was aware that Rhyne intended to take a personnel
action with respect to Morris on March 9, 1993, the day the NRC onsite
investigation was to start. At the suggestion of McKibben, the Director delayed
notifying Morris until the afternoon of March 11, 1993 when the NRC investigation
had completed their inspection of the reactor. McKibben suggested deferring the
action until after the inspection ostensibly because it would distract MURR staff
while they were attempting to respond to the NRC. (McKibben 806-807, 812, 828-

829).

118. Previously, McKibben had on February 25, 1993, advised Dr. Rhyne against taking adverse action as to Dr. Morris without first counseling him with respect to his actions. (RX 15; Morris EX 29). Mr. Reilly was "shocked" when he learned of the proposed demotion and recommended that no precipitous action be taken. (Reilly 911-913). Neither Drs. Sheridan or Brouder were made aware of Reilly's and McKibben's advice to Rhyne concerning the proposed demotion. (Sheridan 988, Brouder 592-594).

119. Progressive discipline is not required in the case of an exempt employee such as Dr. Morris. Dr. Rhyne felt that in previous discussions this had been accomplished as a practical matter and that utilizing the procedure in this instance would have been overkill. (Rhyne 1055)

120. As already noted, Dr. Morris was demoted on March 11, 1993, almost immediately upon conclusion of the NRC onsite inspection. On April 27, 1993, Dr. Morris filed his complaint alleging that his demotion was in retaliation for protected activity relating to regulatory activities covered by NRC licenses. (Morris EX 31, Morris EX 93).

The Relationship Between the Director and the Reactor Scientific Staff

121. The so-called noon staff meetings originated in 1991 because the MURR scientists were frustrated by a feeling that the academic faculty had advantages over the reactor scientists. An attempt was made at these meetings to develop a plan to give the reactor staff more status and equality. In addition, there was frustration over poor communications between the Director's Office and the reactor's scientists. The first set of meetings began in the fall of 1991 originated by Ron Berliner and Bill Yelon. (Glascock 111).

122. The staff plan, which was an outgrowth of the noon staff meetings, designed to enhance the status of the reactor staff was submitted to the Vice

Provost on November 4, 1991. (Morris EX 28; Glascock 114, 117-118). Apparently there was no response. (Morris EX 25 p. 31).

123. In the fall of 1992, three of the reactor staff were designated by ballot to take the staff's concerns to Dr. Rhyne. (Glascock 112-113, 118-119). Dr. Morris was not one of the chosen three. (Glascock 120-121). A memorandum dated November 23, 1992, written by Dr. W. B. Yelon outlined these concerns in pertinent part as follows:

> Proposed opening remarks in subcommittee dialog with J. J. Rhyne
>
> 1) The professional senior staff have met to discuss what they view as inadequate communication between them and the director's office. We are looking for a mechanism to improve this dialog.
>
> 2) There is a widespread perception that the director's office is more sensitive to pressures from above than to the needs and opinions from below. As a result, many of our concerns remain unaddressed, and there is a fear that decisions have been made contrary to the best interests of the MURR staff and facility as a whole.
>
> 3) There is more than 200 years experience at MURR represented by the professional staff. We have witnessed directors, deans, provosts, chancellors and presidents come and go (often many time) while we provide the continuity essential to the success of MURR. There is a natural tendency for these administrators to try to fit the MURR into models which are more familiar but which may not apply to our unique circumstances. The present professional staff at MURR is essentially that which has been responsible for the growth of the facility, the development of the infrastructure and the emergence of MURR as world class facility. This experience gives us unique insights into the working of MURR and convinces us of the merit of being more directly involved in the decision making (day-to-day) and long-range planning for the MURR.
>
> I expect that Jim will ask for specific example of problem areas.
>
> I propose that the following be used.
>
> 1) The staff plan was generated after considerable thought and effort to address a real problem (one recognized by both the MURR staff and the campus administrators). The staff plan has apparently

died. We have had no response from campus and no alternative model has emerged from any quarter.

2) Many members of the staff opposed the creation of non-staff group leaders, and yet this was adopted. We never had an opportunity, except in a Wed. staff meeting, to express our opinions, (a forum not conducive to frank discussion) and never heard from the director an explanation as to why "other factors" may have led to this decision, in spite of our concerns.

3) The joint appointment model is generally opposed by the staff as creating a new class of scientist. They are, in fact, in advantageous roles compared to the regular staff who have developed the resources needed for the joint appointees to succeed. We feel that this is unfair, and will eventually lead to the disintegration of MURR as we know it now.

(Morris EX 25 pp. 30-31)

124. There was a lot of free wheeling discussion by a number of individuals at the noon staff meetings with respect to such concerns. The roles of Drs. Glascock and Dr. Morris at these meetings were relatively similar. Dr. Glascock, nevertheless, was offered the position from which Dr. Morris had recently been demoted. (Glascock 121).

DISCUSSION

These cases arise under the Energy Reorganization Act, 42 U.S.C. § 5851. Kurt R. Zinn and J. Steven Morris, the Complainants herein, respectively research scientist and senior research scientist at the Missouri University Research Reactor (MURR) allege that they have been discriminated against in contravention of the employee protection provisions of the Energy Reorganization Act. Specifically, they allege that they engaged in protected activity covered by regulations of the Nuclear Regulatory Commission with respect to the shipment of radioactive materials. Dr. Zinn alleges that as a result of his protected activity he has been denied consideration for a promotion from research scientist to senior research scientist and that his career prospects have diminished as a result of the demotion of his group leader, Dr. Morris. Dr. Morris alleges that

he was illegally discriminated against because, as a result of his protected activities, the University relieved him of his administrative duties as a program coordinator and group leader.

Generally, in order to establish a prima facie case under the applicable employee protection provisions, a complainant must show that he engaged in protected activity of which the respondent employer was aware and that the employer took some adverse action against him. Complainant must, moreover, present evidence sufficient to at least raise an inference that the protected activity was a likely motive for the adverse action. Darty v. Zack Company of Chicago, Case No. 82-ERA-2 Secretary's Decision and Final Order (April 25, 1983) slip op. at 5-9.

If the employee establishes a prima facie case, employer has the burden of producing evidence to rebut the presumption of disparate treatment by presenting evidence that the alleged disparate treatment was motivated by legitimate nondiscriminatory reasons. Dartey v. Zack Company, supra. If the employer successfully rebuts the prima facie case, the employee still has an opportunity to demonstrate that the reasons proffered by the employer were not the true reasons for the employment decision. In that event, the trier of fact must decide whether or not a discriminatory reason was a more likely motivation or whether the employer's proffered explanation was worthy of credence or not. Id.

Finally, if the trier of fact decides that the employer was motivated both by illegal and legitimate reasons, then the dual motive test comes into play. Under the dual motive test, the employer, in order to avoid liability, has the burden of persuasion to show by a preponderance of the evidence that it would have reached the same decision even in the absence of the protected conduct. Id.

It is undisputed that Complainants' concerns raised in connection with MURR's radioactive shipments are protected. The record further shows that MURR's

management was aware of Complainant's protected concerns. Respondent denies, however, that Complainants were subjected to retaliatory action because of such concerns. The University contends that the actions complained of were taken for legitimate reasons unconnected to the protected activity under consideration here.

Dr. Zinn's Concerns Relating to the Target Composition of Radioactive Materials Shipped From the Reactor

The Missouri University Research Reactor located in Columbia, Missouri, is operated by the University of Missouri. It holds licenses from the Nuclear Regulatory Commission and is subject to provisions of the Energy Reorganization Act (the Act). MURR, the largest research reactor in the country, derives annual revenues in the area of $6 million from the reactor. It has approximately 120 full-time employees, about 80 part-time employees, and currently there are 20 to 25 research and senior research scientists on its staff. The reactor routinely ships radioactive materials making on the order of 2,000 such shipments a year. (Findings 1-2, 5).

A shipping error occurred on July 27, 1992, when two radioactive shipments were mistakenly switched and shipped to the wrong customers. As a result, the customer expecting the smaller amount of radioactivity received the larger amount. Because of that shipping error, Charles McKibben, the associate director of the reactor, in early August of 1992 appointed the Shipping Task Force, since the July 27 shipping error was the second error within a year. The purpose was to review the total shipping program and to conduct a global review thereof. Dr. Zinn was invited to participate on the task force. (Findings 28-29).

As a result of the July 27, 1992 shipping error, an enforcement conference was held in Glenellyn, Illinois, on October 22, 1992, by the NRC. At that conference NRC officials stated in effect that if the reactor shipping problems were not solved they would shut the reactor down. As a result of that conference, Charles McKibben, the associate director, was concerned that the NRC

might halt shipments. James Rhyne, MURR's director, shared the concern that the reactor could be shut down in case of another violation. Moreover, from that enforcement conference, a general concern arose among MURR employees with respect to the viability of the reactor's NRC license. (Finding 31).

At the October 8, 1992 meeting of the Shipping Task Force, Dr. Zinn and Steven Gunn, the reactor engineer, and the then-chairman of the Task Force, disagreed as to how the global review should proceed and the areas that should be examined. Dr. Zinn was concerned about the target composition of samples to be irradiated by the reactor and that the radioactivity induced in samples following neutron bombardment was not being calculated correctly. He felt that MURR should be certain of the identity of the radioisotopes in the sample to ensure accurate disclosure of radioactivity in the samples shipped from MURR. (Finding 32).

Steven Gunn at that point did not favor an investigation to determine whether the issue was important or not. The Shipping Task Force was then focused on the problem of mix-up in the packaging and the destination of the irradiated samples and the remedies therefore. Gunn felt the target composition question, although relevant, was not an issue relevant to the mix-up of the shipment destinations under consideration. Zinn, on the other hand, felt that no calculations were being done to determine the amount of radioactivity induced in the samples. In his opinion this was crucial, for if such calculations were not being done, and the reactor was relying solely on the representations of the customers, there was a possibility of over exposure to radioactivity by MURR employees, the general public, or someone receiving the shipment after radiation. (Findings 32-33, 36).

At the December 10, 1992, meeting of the Shipping Task Force Dr. Zinn distributed a memorandum he authored concerning P32 shipments. He stated that MURR shipped the product P32 without listing its S-35 component on the shipping

papers and that S-35 accounted for greater than ten percent of the total of radioactivity at shipping. P32 is a radionuclide which, according to Dr. Zinn, perhaps accounts for the largest number of radioactive shipments from MURR. (Finding 38).

In his memorandum Dr. Zinn stated in pertinent part:

> Perhaps the MURR management, i.e., Charlie McKibben, should explain to the Shipping Task Force the reason why Ci amounts of S-35 are not reported on the shipping papers for P32 shipments.
>
> (Finding 38)

When Dr. Zinn brought his memorandum of December 10, 1992, to the Shipping Task Force, the memorandum was discussed and Charles McKibben, as a result, appointed the Irradiation Subcommittee which was directed to look into Dr. Zinn's concerns. (Finding 40).

On December 16, 1992, Dr. Zinn discovered another shipping error involving target composition with respect to YHerbium which had been sent by a customer to be irradiated. Neither the customer nor MURR had considered the irradiation caused by the production of another isotope, which meant that the radioactivity of that shipment after processing would be drastically under reported. At the December 17, 1992, meeting of the Irradiation Subcommittee Dr. Zinn distributed his memorandum pertaining to YHerbium. There he stated in pertinent part:

> The customers do not fully identify constituents of the targets nor do they identify all major radioisotopes that can be induced by neutron irradiation. MURR staff do not calculate the activities that are induced, rather they accept and use the customer amounts (and radioisotopes) for shipping.
>
> * * *
>
> I do not understand why corrective action has not been taken on this matter. I do not understand how the MURR can continue to operate on a "status quo" basis when there are so many examples of mistakes created by this process. I suggest that no further irradiations of shipments be allowed for customers that make such requests until such time that appropriate review of the irradiations can be conducted.
>
> (Findings 42-43)

Among Zinn's reasons for writing this memorandum was that his prior oral statements on the subject had not been included in the minutes of the subcommittee and because he felt that his concerns had not been acted on. (Finding 44). After the December 17, 1992, meeting, Reilly, the reactor's Assistant Director, approached Zinn stating that he wanted to be sure that Zinn's concerns had in fact been looked at. Zinn replied he was not satisfied with what had been done up to that point. Reilly was upset and stated that Zinn's memorandum could be considered very damaging to the reactor in the future. Zinn asserts and Reilly denies that the latter suggested that it would not be a good idea to put anything more in writing. Zinn, as a result of that interview, felt that he was running the risk of adverse action being taken against him. (Finding 48).

Zinn, in his January 7, 1993 memorandum to Bill Reilly, stated in pertinent part that he did not feel that simply referring to the Yb-175 activity as "being higher" is a true reflection of the 50-fold higher radioactivity for Yb-175. He again complained that MURR was allowing customers to irradiate targets that were not completely identified either by isotopic enrichments or total composition and that the customers were allowed to determine the radioactivities that were induced and shipped and that their calculations were not checked by the MURR services group. Zinn wrote the January 7, 1993 memorandum to Reilly because he was concerned the minutes were not correctly reflecting his concerns about the YHerbium sample or what was happening at the meeting. (Findings 49-50).

On January 15, 1993, the reactor was to file a report with the NRC pertaining to the shipping problem. Dr. Zinn was concerned that not all of his findings would be reported in the January 15 report. This concern arose from conversations with Steve Gunn, the reactor engineer, Dan Trokey and Bill Reilly, who had urged that findings of specific examples should not be included in the letter. Reilly, in particular, advocated limiting the response to a general statement of the issues involved in Zinn's concern. Ultimately, the letter was

drafted to include the three most significant examples, discovered by Dr. Zinn, where radioactivity of shipments had been under reported. Zinn felt that Walt Meyer, the reactor manager was supportive in this connection. (Finding 52).

On February 7 or 8, 1993, Dr. Morris informed Zinn that he had written a letter asking for Zinn's promotion and was informed that it would be put on hold. (Finding 53).

On the morning of March 9, 1993, when the NRC onsite investigation at the reactor was to begin, there was a dispute as to how Dr. Zinn's memoranda should be handled. The alternatives were to hand the NRC inspectors the minutes of the irradiation subcommittee meetings plus all attachments including the Zinn memoranda, or to hand the inspectors only the minutes of the irradiation subcommittee, holding the attachments and then giving the inspectors the attachments such as the Zinn memoranda if they asked for this material. The data in issue was information from Dr. Zinn with respect to the failure to identify radioactivity in isotopes. McKibben and Reilly asked Meyer if he would be willing to present the information differently than he had prepared it by taking the second approach. Meyer disagreed, advising McKibben and Reilly that withholding the statements such as the Zinn memoranda was not the way to go, because, as chairman of the irradiation subcommittee, he referenced Dr. Zinn's memoranda in the minutes. The attachments such as Dr. Zinn's memoranda were in fact turned over. (Finding 54).

Dr. Zinn's insistence on pursuing the target composition issue forced MURR to deal with the issue. The record shows that his insistence in pursuing this subject generated hostility among certain managers at MURR and in the Director's office. Charles McKibben, the associate director responsible for compliance with Nuclear Regulatory Commission regulations, agreed that Dr. Zinn's discovery of shipping errors benefitted the reactor, but he clearly resented Zinn's aggressive pursuit of the target composition question. He explicitly complained of Zinn's

"adversarial role" as opposed to "a more cooperative team role". He essentially evaded the question of whether he had discussed with Dr. Rhyne, the Director, Dr. Zinn's actions on the Shipping Task Force or the Irradiation Subcommittee. McKibben's answer in response to that question, however, made it very clear that he resented Zinn's "adversarial position" and, in fact, resented getting Zinn's memorandum pertaining to the P32 shipments. (Findings 71-72).

Dr. Rhyne's August 10, 1993 personnel evaluation of Dr. Zinn echoed McKibben's reaction to Zinn's exercise of protected activity. Therein he stated in pertinent part as follows:

> I feel it necessary to mention that I perceive a serious attitude problem on your part with respect to MURR and University administration and to some degree with your colleagues. Your adversarial approach to policy decision, procedures, and discussions with your superiors really has no place in a scientific laboratory environment such as MURR. Much more can be accomplished by mutual respect and a collegial approach to concerns and problems. Persistence in an antagonistic approach can not help but negatively impact on your future relations with MURR.
>
> (Finding 73; EX 38) (Emphasis supplied)

Rhyne's complaint of Zinn's "adversarial approach" and lack of a "collegial approach" echoed McKibben's complaints pertaining to Zinn's pursuit of the target composition issue. Significantly, McKibben was present on September 10, 1993, when Rhyne presented this evaluation to Zinn. (Finding 73). The record compels the inference that Rhyne shared McKibben's hostility to the exercise of, and the manner of Zinn's exercise of, protected activity in this case.

While Dr. Rhyne was not directly involved in dealing with Dr. Zinn pertaining to his target composition concerns, it is inconceivable that the Associate Director and Assistant Director did not contemporaneously keep him apprised of such events. The record compels that conclusion for a number of reasons. The management group at the reactor in the Director's Office is small and closely knit. The animosity in response to Zinn's protected activity in the Director's Office ran high in the case of Reilly and McKibben. Most

significantly, the management group were afraid that Zinn's discoveries could lead to NRC regulatory action imperiling the reactor's future. The possibility of adverse NRC action had been a matter of concern to all of MURR management including Rhyne, since the Glenellyn NRC conference on October 27, 1982. Knowledge of protected activity may be inferred from the record as a whole. Cf. Coral Gables Convalescent Home, Inc., 234 N.L.R.B. 1198 (1978).

Assistant Director Reilly's reaction was that Zinn was acting like a "zealot". Reilly was also concerned with Zinn's motivation, namely, "was it really a concern for health and safety, or was it a destructive motivation as far as MURR was concerned." While Reilly stated that he shifted back and forth as to Zinn's motivation, he conceded that he thought that Zinn might be trying to shut the reactor down. (Finding 74).

It is significant that these events transpired against a background of the possibility of an NRC shutdown. As Reilly stated,

> It was accepted and common wisdom -- whether it was right or wrong it was common wisdom -- that any further violation, and this was our second violation of shipping within a year would shut the reactor down.
>
> This you know was a very damaging thing to do but it was something that had to be discovered and had to be explored.
>
> (Finding 74)

While Mr. Reilly felt these issues had to be dealt with, he also felt that what Zinn was doing was very damaging and was the action of a zealot. Reilly also resented the fact that Zinn had suggested in writing that the reactor should self report the violations to the NRC, feeling that if Zinn's December 17 memorandum making that suggestion were discovered, MURR might have been faulted for not self reporting the problem. (Findings 74-75).

Reilly's memorandum replying to Zinn's Department of Labor complaint expanded on these views. Although the University's counsel asked for Reilly's response to the complaint, Reilly arranged for its circulation to the MURR staff. In that memorandum his hostility to the whistleblower process is patent. For

example:

> And I am sufficiently enlightened that the process cannot be impeded although in carrying it out one man's hero can be another man's Benedict Arnold.
>
> * * *
>
> . . . A charlatan needs only to don the cloak of sanctimony provided by the whistleblower process to carry out a devious agenda with impunity.
>
> * * *
>
> . . . Beginning with his 12/10/92 memo his actions at the Shipping Task Force meeting on that date Zinn began to act as a Zealot in attempting to go through the isotope group files of previous radioactive shipments to dig up evidence of shipping errors. . . . Although it was very disruptive to the day-to-day operation of the isotope group, Zinn was given full cooperation.
>
> * * *
>
> A final comment. As I was preparing this memo an apt parody of an old song title continued to come to mind: "It's a Zinn to Tell a Lie." . . . .
>
> (Finding 71)

Zinn had not distributed his Department of Labor complaint to MURR staff. Nevertheless, copies of Zinn's Department of Labor complaint had been distributed to the MURR staff as well as to certain visitors to the reactor. The reaction according to Dr. Zinn was that there were people who thought that he should not have done that and they told him that he should not have done it. (Finding 70). Circulation of Dr. Zinn's complaint and Mr. Reilly's memorandum to the MURR staff can only be construed as retaliation for Dr. Zinn's protected activity in forcing the reactor to come to grips with the target composition issue as well as for his filing of the complaint which is also protected under the statute.

Steven Gunn, the reactor services engineer, shared the resentment generated by Zinn's memoranda:

> And I -- and I have to talk about the tone of the memos. Everything that Kurt brought to us was never brought in person. It was also brought in a memo.
>
> The memos usually were accusatory. They were containing statements as you know contrary to the director's office. The way

the copies were distributed I came to the conclusion that Kurt probably had a dual agenda on this.

(Finding 76)

Gunn, echoing the complaints of McKibben and Reilly, also felt that Zinn's memoranda were not in the problem solving mode and resented getting these memoranda without previous discussion. (Finding 77).

Rhyne's statement in the August 10, 1993 personnel evaluation that "persistence in an antagonist approach cannot help but negatively impact on your future relations with MURR," in this context, is a not so subtle threat that further aggressive pursuit of possible NRC violations would damage Dr. Zinn's career.

The Failure to Consider Dr. Zinn for Promotion

Dr. Morris had agreed with Dr. Zinn to recommend the latter's promotion when he secured his Ph.D. Dr. Zinn in fact secured his Ph.D. in December of 1992. Dr. Morris recommended that Zinn be considered for promotion on February 3, 1993, requesting that a committee be established to consider his promotion. The first time that a promotion committee had been set up at MURR was towards the end of January 1993 in connection with Dr. Hector Neff. (Finding 81).

At the time that Dr. Morris requested the consideration of Dr. Zinn's promotion, he was not aware that promotion guidelines were being considered. He learned of them a short time thereafter. On February 4, 1993, the next day, Dr. Rhyne informed Dr. Morris that he would hold up Dr. Zinn's promotion since the promotion policy was under development and he did not want to initiate other promotions until that policy had been finalized. (Findings 82-83).

On February 12, 1994, the draft policy of MURR policy guidelines including promotion criteria from research scientist to senior research scientist were circulated to the group leaders including Dr. Morris. This was the first time that new promotion guidelines had been given to Dr. Morris. Previously, in January 1993 the document had been discussed at the Internal Advisory Committee

(IAC). The document was subsequently sent to the group leaders and managers for their review thereafter as already noted. (Finding 84).

Dr. Rhyne began to formulate the promotional guidelines in the fall of 1992. A copy of the promotion guidelines had an original date of October 5, 1992, and revision dates of December 21, 1992 and February 15, 1993. (Finding 98). In short, the guidelines were not formally in effect in the period January-February 1993 when critical decisions were being made with respect to the possible promotions of Drs. Neff and Zinn.

Dr. Rhyne stated that he nevertheless in effect applied the promotion guidelines to both Drs. Neff and Zinn in making his decisions as to whether or not to set up promotion committees in their case. (Finding 101). However, in the case of Dr. Neff the promotion committee was set up despite his failure to meet the 25 percent service requirement under the guidelines as they were written. (Finding 100). The guidelines, however, were applied across the board to Dr. Zinn in Dr. Rhyne's determination that a promotion committee should not be established in his case.

Dr. Zinn has established a prima facie case. He has demonstrated that he engaged in protected activity and that MURR's officials were aware of it. The level of animosity on the part of individuals in the Director's Office directed against him arising out of that protected activity, i.e., the accusations of an adversarial approach, dual agendas, and attempting to shut the reactor down further demonstrate that the likely cause of the personnel action he complains of, was his exercise of protected activity. The timing of the decision following closely Dr. Zinn's raising of the target composition issues likewise compels that conclusion.

The University has not made a convincing case that Zinn was denied promotion consideration for legitimate reasons. He was denied such consideration on the basis of promotion criteria not yet fully in effect; they were still being discussed with the group leaders. At the time these actions were taken Dr. Rhyne

indicated that it would be a couple of months until the policies were in fact finalized. Moreover, the criteria were more rigorously applied to Dr. Zinn than to Dr. Neff.

The inherent animosity in Dr. Rhyne's remark to Dr. Glascock on September 12, 1993, that "a trained monkey could have filtered Dr. Zinn out as not being qualified for promotion" further compels the inference that the hostility arising out of the protected activity was a critical consideration in refusing to set up a promotion committee. It undercuts the contention that the decision was based on objective criteria.

If, on the other hand, it were determined that both legitimate and discriminatory reasons played a part in the decision, the case would have to be decided under the dual motive analysis. Considering the level of hostility to Dr. Zinn on the part of individuals in the Director's Office and management of the reactor, because of his target composition concerns, no finding can be made that promotion consideration would have been denied him absent the protected activity in question. "In dual motive cases, the employer bears the risk that the influence of legal and illegal motives cannot be separated. . ." Pogue v. U.S. Department of Labor, 940 F.2d 1287, 1291 (9th Cir. 1991).

The Morris Demotion

Dr. Morris encouraged Dr. Zinn to pursue the target certification issue on the Shipping Task Force and Irradiation Subcommittee. In January of 1993, he filled in for Dr. Zinn at certain of their meetings and later attended meetings when the January 15, 1993 response to the NRC was being finalized. In those discussions it was unclear whether the results of Dr. Zinn's work or that of the Irradiation Subcommittee in general were to be included in the letter to the NRC. Dr. Morris expressed those concerns in the presence of Associate Director McKibben and Assistant Director Reilly; Steve Gunn was also present. It was Dr. Morris' concern that the substance of Dr. Zinn's findings were not getting into

the earlier drafts of the letter. Dr. Morris, in attending these meetings, viewed his role as that of trying to hold up Dr. Zinn's end of the argument. In addition, Dr. Morris expressed these concerns in other subcommittees of which he was a member, as, for example, the Reactor Services Subcommittee and the Safety Subcommittee. (Findings 58-59).

The argument essentially came down to a question of whether Dr. Zinn's concerns and discoveries should be revealed to the NRC in explicit detail or whether the reactor, although not covering the issue up, should take a low profile on this question leaving it up to the NRC investigators to request the details should their interest be aroused. Dr. Zinn's and Dr. Morris' advocacy of full and explicit disclosure is clearly protected activity. That fact is not vitiated by the disclosure which, subsequent to the argument on this point, was subsequently made in the January 15 letter.

The University denies that Dr. Morris' activities in this respect motivated the demotion of which he complains. To evaluate that contention it is necessary to consider the background against which this controversy played itself out. The University contends that Dr. Rhyne, the new Director, who assumed office in December of 1990, had a mandate of change. Specifically, he was directed to emphasize the research function of the reactor as opposed to its service function and to integrate the campus faculty with the reactor. In short, he was to give greater emphasis to the academic side of the reactor's work.

In summary, the University contends that Dr. Rhyne was attempting to take the reactor in a new direction and that he had the perception that Dr. Morris, the former interim director, was attempting to undermine his efforts in that respect. (Finding 105). The record shows that Dr. Morris and Dr. Rhyne had disagreements over a range of issues beginning in 1991. The disagreements included allocation of space among various disciplines at the reactor in an addition which was to be constructed, budget allocations which Dr. Morris thought

inimicable to his group, a disagreement about personnel evaluations and perhaps most fundamental, the manner of integrating campus faculty into the operation and administration of the reactor. (Finding 108). Dr. Rhyne conceded that none of these matters in and of themselves would have justified the demotion considered in isolation. However, he felt that taken together the tipping point had been reached in January-February 1993 when he was apprised of dissension at the reactor which he felt could be traced to Morris' group. (Finding 113). Dr. Rhyne's perception in this regard may have played a role in the demotion of Dr. Morris. Nevertheless, the timing of the action compels the inference that Dr. Morris' protected activity also played a significant part in the decision to remove him from his administrative duties. Rhyne initiated the demotion in his conferences with the Provost and Vice Provost in February 1993 following closely the controversy on target composition concerns. Rhyne admits that none of the preceding disagreements by themselves would have justified the demotion. The record, accordingly, compels the inference that the tipping point leading to the action was Zinn's and Morris' protected activity in that period.

The friction between Dr. Morris and Dr. Rhyne on the basis of the evidence of this record went back at least to 1991. Nevertheless, there is no indication that adverse action against Dr. Morris was seriously contemplated prior to January-February 1993. In this connection, it should be noted that Dr. Zinn's pursuit of the target certification issue became contentious in the period October 1992 to January 1993. Dr. Morris in January of 1993 weighed in on Dr. Zinn's side at various committee or subcommittee meetings for more explicit disclosure of the target certification problem. It was also clear that reactor management in the form of Messrs. McKibben and Reilly were aware of Dr. Morris' actions in this respect. The level of hostility arising out of Dr. Zinn's actions was high. He was bringing to light additional shipping violations which reactor management feared could shut the reactor down. The detail in which Dr.

Zinn's concerns were to be disclosed to the NRC was clearly a controversial issue. The record compels the inference that that hostility spilled over to Dr. Morris, who also advocated full disclosure. In short, considering the animus resulting from the protected activity in question and the timing of the decision to demote Dr. Morris, the record compels the conclusion that Dr. Morris' support of Dr. Zinn played a significant part in the decision to demote him. No finding can be made on the basis of these facts that Dr. Morris would have been demoted even absent the exercise of protected activity. See Pogue v. U.S. Department of Labor, 940 F.2d supra at 1291.

Remedy

The record supports the finding that the failure to at least consider Dr. Zinn for a promotion to Senior Research Scientist was discriminatory. The record in this proceeding is not designed for an informed determination by the trier of fact as to whether Dr. Zinn in fact should be promoted. Under the circumstances, such an evaluation is best left to a committee of his peers. The University will be required to set up a promotion committee of his scientific peers not previously involved in this proceeding as witnesses or in the NRC investigation, to evaluate his suitability for promotion. The members of the promotion committee shall be selected by a University official not previously involved in the NRC investigation or this litigation. If the University cannot find a suitable official on its staff who has the requisite neutrality to fairly select such a promotion committee, it shall arrange for the selection of the committee by a suitable official from another University or other appropriate scientific institution. The procedures for establishing a promotion committee for Dr. Zinn shall be initiated within ten days of the Secretary's final order.

In the event that Dr. Zinn is found suitable for promotion by the committee, he is to be promoted and given back pay in the amount of the differential between the research scientist and senior research scientist salaries in the period from February 4, 1993 to the date of his promotion.

Dr. Morris, within ten days of the Secretary's final order, is to be reinstated as Nuclear Analysis Program Coordinator and the Analytic Epidemiology Nutrition and Immunology group is to be re-established with Dr. Morris as group leader.

Respondent, in view of the circulation of the Reilly memorandum, is to post the Secretary's final decision and order for a period of 60 days on MURR bulletin boards where official documents are posted.

Respondent is to reply to the fee petition of Dr. Morris and his request for reimbursement of litigation expense within ten days of the issuance of this decision. Complainant Zinn may file his fee petition at the same time.

RECOMMENDED ORDER

IT IS ORDERED that:

1. The Respondent is to establish a committee to consider Dr. Zinn's suitability for promotion to Senior Research Scientist in accordance with the terms and conditions set forth in this decision initiating this procedure no later than 10 days from the date of the Secretary's final order.

2. Dr. Zinn, if the committee recommends his promotion, is to be promoted in accordance with that recommendation and to be reimbursed with the differential between the salary of a research scientist and senior research scientist in the period from February 4, 1993 to the date of his promotion.

3. Within ten days of the Secretary's final order, Dr. Morris is to be reinstated as Nuclear Analysis Program Coordinator.

4. Within ten days of the Secretary's final order the Analytic Epidemiology Nutrition and Immunology group is to be re-established with Dr. Morris as group leader.

5. Respondent is to post on all bulletin boards of the Missouri University Research Reactor, where Respondent's official documents are posted, a copy of the Secretary of Labor's Decision and Order for a period of 60 days, ensuring it is

not altered, defaced or covered by any other material.

THEODOR P. VON BRAND
ADMINISTRATIVE LAW JUDGE

TPVB/jbm
Newport News, Virginia